This page: The Movement Tracking System (MTS) Military Ruggedized Tablet provides Radio Frequency Identification capability for in-transit, real-time visibility of cargo.
U.S. Army Photo

Opposite page: The Army is delivering substantial cost reductions as it upgrades its situational awareness technology for future operations and a new generation of Soldiers.
Photo by Claire Heininger

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Building a Culture of Efficiency in Blue Force Tracking Technology

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On the battlefields of Afghanistan and Iraq, Force XXI Battle Command Brigade and Below/Blue Force Tracking (FBCB2/BFT) fundamentally changed American warfare by digitizing situational awareness to reduce the uncertainty known as the "fog of war."

Now the program office that fielded FBCB2 to more than 120,000 vehicles and every tactical operations center (TOC) in the Army is delivering substantial cost reductions as it upgrades the technology for future operations and a new generation of Soldiers.

The two-part system upgrade, known as Joint Capabilities Release (JCR) and Joint Battle Command-Platform (JBC-P), will serve as the principal mission command system for the Army and Marine Corps at the brigade-and-below level. It comes as the Army advances the tactical network as its top modernization priority, fielding integrated "capability sets" that connect all echelons of the Brigade Combat Team with mobile voice and data communications.

However, amid declining budgets and the drawdown of forces in theater, Project Manager (PM) JBC-P recognized that the traditional and costly path of advancing new technology was not an option for this much-needed upgrade. Instead, the PM relied on an organizational culture that stressed prudence, efficiency, and challenging the status quo. With the necessary strategic decisions and groundwork in place, Fiscal Year 2013 (FY2013) became the year of execution. By leveraging

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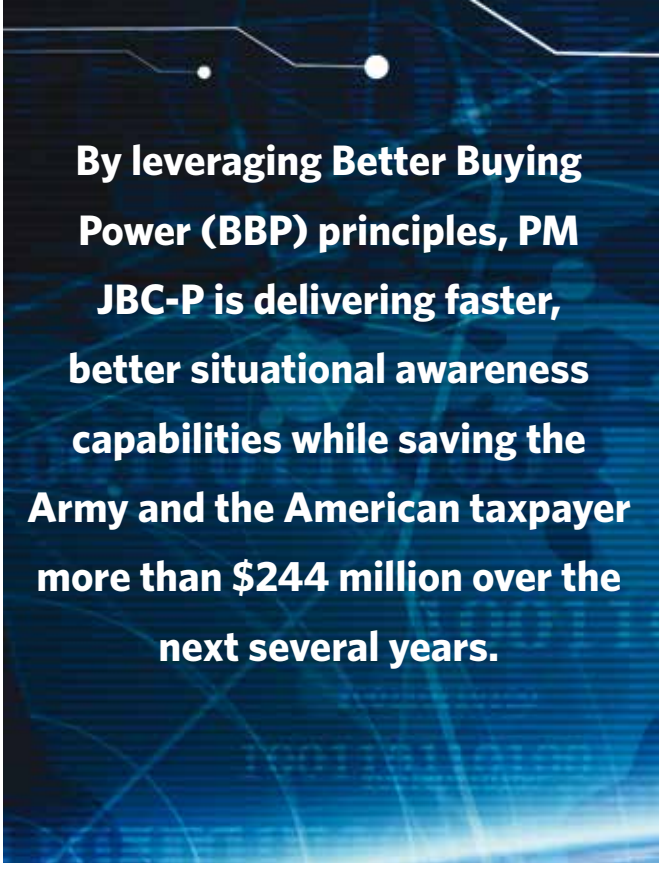

Better Buying Power (BBP) principles, PM JBC-P is delivering faster, better situational awareness capabilities while saving the Army and the American taxpayer more than $244 million over the next several years.

Promoting Real Competition

Aggressively pursuing competitively awarded, fixed-price contracts is nothing new to PM JBC-P, which is assigned to the Program Executive Office for Command, Control and Communications-Tactical (PEO C3T). In fact, the approach was instilled more than a decade ago when FBCB2/BFT was being fielded. In 2001, the PM thought the pricing of a hardware contract held by the lead systems integrator could be reduced. So, a decision was made to break out that portion and release a competitive contract for hardware.

That effort led to a new contract with a 50 percent drop in unit price. It also was the beginning of a culture change within the organization.

While all service providers had a shot in the competitive environment and all were treated equally, PM JBC-P, then known as PM FBCB2, decided to no longer accept the status quo. The PM team understood the future success of their program depended on implementing a shift in vision that challenged processes and sought out efficiencies.

If a competitive market didn't exist, the team took the time to establish one. Where prudent, it also secured government purpose rights for software and technical data packages for hardware. As part of the process, the team used third parties to validate the government purpose rights and technical data packages so when competitive contracts were released they could effectively exercise their development rights.

A strategic step came in 2010, when the PM JBC-P team chose the U.S. Army Aviation and Missile Research, Development and Engineering Center's Software Engineering Directorate to design the software upgrades for JBC-P, rather than selecting a contractor. They knew it was a risk, but a calculated one. The decision produced $64 million in cost avoidance and ensured future control of the capability. Three years later, JBC-P is already in Soldiers' hands for evaluation, just completed its Initial Operational Test and Evaluation (IOT&E), and could receive production approval as early as this year.

While development progressed on the software, PM JBC-P applied the tenets of Better Buying Power to acquire other system components, such as hardware and satellite airtime. The program office recently concluded three competitive contract efforts, resulting in significant cost reductions.

First, the PM held a full and open competition for the procurement of the BFT system platform and TOC installation kits. This resulted in more than a 40 percent reduction from the previous contract, based on projected platform installations over the FY2012–FY2017 Program Objective Memorandum (POM).

Next, to purchase satellite airtime, PM JBC-P worked in concert with the Defense Information Systems Agency to take advantage of General Services Administration Schedule 70 processes and carefully craft a performance-based requirement to enable bidders without BFT experience to compete. In addition, the PM surveyed the marketplace and crafted a performance work statement to best create competition while satisfying global operational requirements. This resulted in roughly a 27 percent reduction in the cost of satellite channels from the previous contract and $86 million in projected cost avoidance over the FY2014–FY2019 POM.

The third contract, which was awarded in June, leveraged full and open competition to satisfy multiple requirements for mounted computing components to enhance Soldiers' ability to plan, monitor and execute missions. Known as the mounted Family of Computer Systems (m-FoCS), this new capability allows multiple C4ISR (Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance) programs and vehicle integrators to use common hardware components inside a vehicle to take advantage of economies of scale, simplified logistics, prequalified solutions and fully integrated components. The PM staffed the requirements across Services and among PEOs to ensure specific capabilities were met, while making significant reductions in size, weight and power use. Not only does m-FoCS satisfy JBC-P needs, it supports other C4ISR capabilities and will provide mounted computing solutions for the Marine Corps. As an example of m-FoCS component cost avoidance, the average cost of a complete JBC-P system dropped by more than 30

Top:
The capability Soldiers relied on for situational awareness, Force XXI Battle Command Brigade and Below/Blue Force Tracking (FBCB2/BFT), is being upgraded in two phases.
Photo by Claire Heininger

Inset:
Soldiers check communications with their Tactical Operations Center using a Movement Tracking System (MTS) mobile unit.
U.S. Army Photo

percent. If tallied over the current Basis Of Issue Plan (BOIP), it represents an avoidance of more than $65 million.

Moving forward, m-FoCS will support PM JBC-P's Mounted Computing Environment, one of six approved computing environments that are part of the Army-wide Common Operating Environment (COE). This new strategy embraces a commercially based set of standards that enable secure and interoperable applications to be rapidly developed and executed across the computing environments. Once established, the COE will allow the Army to develop, test, certify and deploy software capabilities efficiently with reduced development costs, while also encouraging competition.

PM JBC-P's Mounted Computing Environment is software-focused and will enable programs to run capabilities on whatever hardware is available. It will deliver a quality software development kit where programs can rapidly develop, test, and field mission command capabilities.

Eliminating Redundancy Within Warfighter Portfolios

The development of the Mounted Computing Environment and m-FoCS follows a series of other moves by PM JBC-P to reduce system capability duplication and create a more seamless user experience.

For example, the recent transition of the Movement Tracking System (MTS) into the PM JBC-P family of systems significantly increased capabilities while also reducing costs, streamlining processes and better aligning resources. MTS, a mostly vehicle-based system that tracks combat support and combat service support vehicles, uses a radio frequency identification capability to provide in-transit, near real-time visibility of critical cargo. It previously was assigned to the Program Executive Office for Enterprise Information Systems.

By incorporating MTS in 2012—ahead of schedule—PM JBC-P immediately eliminated the need for separate program management elements such as contracts, satellite channels, and operational costs. In FY2012, the transition showed cost avoidance of almost $20 million; that figure is expected to exceed $30 million per year through at least FY2016 for a total cost avoidance of approximately $156 million.

Even before the transition, the culture of efficiency at PM JBC-P set the stage for greatly improved capabilities at less cost. Although MTS had separate software and hardware, it shared the same networking technology with FBCB2/BFT. Leaders at PM JBC-P recognized this compatibility, and, after a 2006 Army memo directed the use of the FBCB2 product line software to replace the MTS software, they strategically worked with MTS leaders to choose a common hardware. Now, with the same network and hardware, they could complete the efficient integration leveraging the FBCB2 product line software to create JCR Logistics. With this new capability, maneuver and logistics forces can share situational awareness and messaging, forming a complete operational picture. JCR Logistics installation was completed on platforms in Afghanistan between October 2012 and March 2013.

The more than $156 million in cost avoidance from the transition of the MTS program office into PM JBC-P also created an opportunity for new forward-looking efficiencies in product support. PM JBC-P eliminated software tests and support for an evolving MTS baseline, combining test, support, and sustainment functions. This saved almost $1.7 million per year. For units, this single software baseline allows users to migrate between systems without the burden of retraining.

PM JBC-P also realigned field support representatives (FSRs) and help desks for two systems: MTS and Tactical Ground Reporting (TiGR), which is now part of the JBC-P family. By transitioning the MTS system of using regionally-based FSRs to PM JBC-P's system of dedicated FSRs who train and deploy with the brigade combat team, the numbers of FSRs were reduced. Additionally, the JBC-P fielding team expanded its mission to now install the systems identified in the MTS BOIP. The two alignments avoid costs of more than $11 million per year.

PM JCB-P also eliminated a fully manned, 24/7 MTS network operations center and its contingency backup site, which were consolidated into the two existing government JBC-P sites that run 24/7. Likewise, the PM incorporated the 24/7 help desk for TiGR, eliminating the need for two contractor-owned help desks, and a help desk for the Battle Command Support and Sustainment System (BCS3). These efforts have avoided an additional $2.4 million per year, which includes overhead costs and personnel, without affecting operations.

Upgrades Move Forward With a Focus on Efficiency

JCR introduces product line software and upgrades the BFT network, while JBC-P primarily is a software upgrade with some growth in the BOIP that mostly introduces a dismountable platform computer. However, both leveraged preexisting hardware and other system components, saving significant taxpayer dollars. Fielding now is JCR, which brings a faster BFT satellite network, secure data encryption, Marine Corps interoperability, and improved chat messaging. Once fielded, JBC-P will further revolutionize how lower echelons communicate and navigate on the battlefield, adding touch-to-zoom maps, drag-and-drop icons and a Google Earth-like interface. JBC-P will enable beyond-line-of-sight communication among dismounted Soldiers, vehicles, aircraft, and higher headquarters.

As innovations in technology reshape the strategic environment by multiplying and improving capabilities, PM JBC-P will continue to be at the forefront of successfully implementing cutting-edge acquisition strategies to deliver the situational awareness tool that Soldiers rely on for greater lethality, mobility, and responsiveness.

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